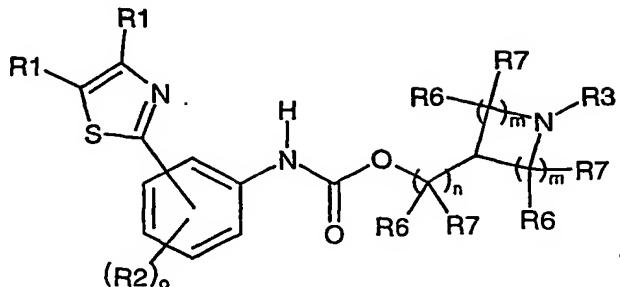


## What is Claimed Is:

## 1. A compound according to the formula:



5

(I)

wherein:

the thiazole is ortho to the nitrogen;

R1 is selected from the group consisting of halogen, C<sub>1-5</sub>alkyl, CH<sub>2</sub>F, CHF<sub>2</sub>;R2 is selected from the group consisting of hydrogen, C<sub>1-5</sub>alkyl, aryl, halogen,

10 hydroxy and alkoxy;

R3 is selected from the group consisting of hydrogen, C<sub>1-5</sub>alkyl, cycloalkyl, cycloalkyl C<sub>1-5</sub> alkyl, C<sub>2-4</sub>alkenyl, C<sub>2-4</sub>alkenylaryl; cycloalkyl C<sub>1-5</sub> alkyl, and C<sub>1-4</sub>alkylaryl, which may be optionally substituted independently by a substituent selected from the group consisting of halogen, nitro, halosubstituted C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkyl, amino, mono or di-C<sub>1-4</sub> alkyl substituted amine, OR<sub>a</sub>; C(O)R<sub>a</sub>, NR<sub>a</sub>C(O)OR<sub>a</sub>, OC(O)NR<sub>6</sub>R<sub>7</sub>, hydroxy, NR<sub>9</sub>C(O)R<sub>a</sub>, S(O)<sub>m</sub>R<sub>a</sub>, C(O)NR<sub>6</sub>R<sub>7</sub>, C(O)OH, C(O)OR<sub>a</sub>, S(O)<sub>2</sub>NR<sub>6</sub>R<sub>7</sub>, and NHS(O)<sub>2</sub>R<sub>a</sub>;R<sub>6</sub> and R<sub>7</sub> are selected from the group consisting of hydrogen, and C<sub>1-4</sub> alkyl, or R<sub>6</sub> and R<sub>7</sub> together form a 5 to 7 member ring which ring may optionally contain an

20 additional heteroatom selected from oxygen, nitrogen or sulfur, and which ring may be optionally substituted;

n is 1 or 2; and independently

m is 1 or 2.

## 2. A compound according to claim 1 wherein:

the thiazole is ortho to the nitrogen;

R1 is selected from the group consisting of halogen, C<sub>1-5</sub>alkyl, CH<sub>2</sub>F, CHF<sub>2</sub>;

R2 is selected from the group consisting of hydrogen, C<sub>1</sub>-5alkyl, aryl, halogen, hydroxy and alkoxy;

R3 is selected from the group consisting of hydrogen, C<sub>1</sub>-5alkyl, cycloalkyl, cycloalkyl C<sub>1</sub>-5 alkyl, C<sub>2</sub>-4alkenyl, C<sub>2</sub>-4alkenylaryl; cycloalkyl C<sub>1</sub>-5 alkyl, and C<sub>1</sub>-4alkylaryl,

5 which may be optionally substituted independently by a substituent selected from the group consisting of halogen, nitro, halosubstituted C<sub>1</sub>-4 alkyl, C<sub>1</sub>-4 alkyl, amino, mono or di-C<sub>1</sub>-4 alkyl substituted amine, OR<sub>a</sub>; C(O)R<sub>a</sub>, NR<sub>a</sub>C(O)OR<sub>a</sub>, OC(O)NR<sub>6</sub>R<sub>7</sub>, hydroxy, NR<sub>9</sub>C(O)R<sub>a</sub>, S(O)<sub>m</sub>R<sub>a</sub>, C(O)NR<sub>6</sub>R<sub>7</sub>, C(O)OH, C(O)OR<sub>a</sub>, S(O)<sub>2</sub>NR<sub>6</sub>R<sub>7</sub>, and NHS(O)<sub>2</sub>R<sub>a</sub>;

10 R<sub>6</sub> and R<sub>7</sub> are selected from the group consisting of hydrogen, and C<sub>1</sub>-4 alkyl, or R<sub>6</sub> and R<sub>7</sub> together form a 5 to 7 member ring which ring may optionally contain an additional heteroatom selected from oxygen, nitrogen or sulfur, and which ring may be optionally substituted;

n is 1 or 2; and independently

15 m is 1 or 2.

3. A compound according to claim 2 selected from the group consisting of:

[2-(4-Methyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-Ethyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

{2-[4-(1,1-Difluoro-methyl)-thiazol-2-yl]-phenyl}-carbamic acid piperidin-4-ylmethyl

20 ester;

(2-Thiazol-2-yl-phenyl)-carbamic acid piperidin-4-ylmethyl ester; compound with 2,2,2-trifluoro-acetic acid;

[2-(4-Propyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-Methyl-thiazol-2-yl)-phenyl]-carbamic acid (2R,6R)-2,6-dimethyl-piperidin-4-

25 ylmethyl ester;

[2-(4-Isopropyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-tert-Butyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-Bromo-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-Chloro-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

30 [2-(4-Isobutyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-Cyclopropylmethyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-Cyclopropyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-Cyclobutyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

5 [2-(4-Trifluoromethyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-Fluoromethyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

{2-[4-(1,1-Difluoro-ethyl)-thiazol-2-yl]-phenyl}-carbamic acid piperidin-4-ylmethyl ester;

{2-[4-(2-Fluoro-ethyl)-thiazol-2-yl]-phenyl}-carbamic acid piperidin-4-ylmethyl ester;

10 {2-[4-(2,2-Difluoro-ethyl)-thiazol-2-yl]-phenyl}-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-Methoxymethyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-Hydroxymethyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

{2-[4-(1-Hydroxy-ethyl)-thiazol-2-yl]-phenyl}-carbamic acid piperidin-4-ylmethyl ester;

15 {2-[4-((R)-1-Hydroxy-ethyl)-thiazol-2-yl]-phenyl}-carbamic acid piperidin-4-ylmethyl ester;

{2-[4-(2-Hydroxy-ethyl)-thiazol-2-yl]-phenyl}-carbamic acid piperidin-4-ylmethyl ester;

20 [2-(4-Amino-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[5-Fluoro-2-(4-methyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-Ethyl-thiazol-2-yl)-4-hydroxy-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-Methyl-thiazol-2-yl)-phenyl]-carbamic acid (2R,6S)-2,6-dimethyl-piperidin-4-ylmethyl ester;

25 [2-(4-Methyl-thiazol-2-yl)-phenyl]-carbamic acid (2R,6S)-2,6-dimethyl-piperidin-4-ylmethyl ester;

[2-(4-Methyl-thiazol-2-yl)-phenyl]-carbamic acid (2R,6S)-1-benzyl-2,6-dimethyl-piperidin-4-ylmethyl ester;

[2-(4-Methyl-thiazol-2-yl)-phenyl]-carbamic acid (2R,6S)-1-benzyl-2,6-dimethyl-

30 piperidin-4-ylmethyl ester;

[2-(4-Methyl-thiazol-2-yl)-phenyl]-carbamic acid (2R,6R)-2,6-dimethyl-piperidin-4-ylmethyl ester;

[2-(4-Methyl-thiazol-2-yl)-phenyl]-carbamic acid (2R,6R)-2,6-dimethyl-piperidin-4-ylmethyl ester;

[2-(4-Methyl-thiazol-2-yl)-phenyl]-carbamic acid (2R,6R)-1-benzyl-2,6-dimethyl-piperidin-4-ylmethyl ester;

5 [2-(4-Methyl-thiazol-2-yl)-phenyl]-carbamic acid 4-fluoro-piperidin-4-ylmethyl ester;

[2-(4-Methyl-thiazol-2-yl)-phenyl]-carbamic acid 1-butyl-piperidin-4-ylmethyl ester;

[2-(4-Methyl-5-methylcarbamoyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[2-(5-Methyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

10 [2-(4,5-Dimethyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-Acetyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

{2-[4-(2-Benzylxyloxy-ethyl)-thiazol-2-yl]-phenyl}-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-Methylcarbamoyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

15 2-[2-(Piperidin-4-ylmethoxycarbonylamino)-phenyl]-thiazole-4-carboxylic acid ethyl ester;

[2-(4-Dimethylaminomethyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-Phenyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

20 [2-(4-Thiophen-3-yl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

[2-(4-Ethyl-thiazol-2-yl)-4-fluoro-phenyl]-carbamic acid piperidin-4-ylmethyl ester;

tert-Butyl 4-{{{{[4-(4,4,5,5-tetramethyl-[1,3,2]dioxaborolan-2-yl)phenyl]amino}carbonyl}oxy}methyl}piperidine-1-carboxylate;

tert-Butyl 4-{{{{[3-(4,4,5,5-tetramethyl-[1,3,2]dioxaborolan-2-yl)phenyl]amino}carbonyl}oxy}methyl}piperidine-1-carboxylate;

25 25 phenyl]amino }carbonyl)oxy]methyl}piperidine-1-carboxylate ;

tert-Butyl 4-{{{{[4-(4-chloro-1,3-thiazol-2-yl)phenyl]amino}carbonyl}oxy}methyl}piperidine-1-carboxylate;

tert-Butyl 4-{{{{[3-(4-chloro-1,3-thiazol-2-yl)phenyl]amino}carbonyl}oxy}methyl}piperidine-1-carboxylate;

30 Piperidin-4-ylmethyl 4-(4-chloro-1,3-thiazol-2-yl)phenylcarbamate hydrochloride;

Piperidin-4-ylmethyl 3-(4-chloro-1,3-thiazol-2-yl)phenylcarbamate hydrochloride ;

1-cyclohexylmethyl-piperidin-4-ylmethyl 4-(4-chloro-1,3-thiazol-2-yl)phenylcarbamate;

1-cyclohexylmethyl-piperidin-4-ylmethyl 3-(4-chloro-1,3-thiazol-2-yl)phenylcarbamate;

5 4-[4-(4-Chloro-thiazol-2-yl)-phenylcarbamoyloxymethyl]-1-cyclohexylmethyl-1-methyl-piperidinium iodide;

4-[3-(4-Chloro-thiazol-2-yl)-phenylcarbamoyloxymethyl]-1-cyclohexylmethyl-1-methyl-piperidinium iodide;

4-[4-(4-Chloro-thiazol-2-yl)-phenylcarbamoyloxymethyl]-1,1-dimethyl-piperidinium;

10 and

4-[3-(4-Chloro-thiazol-2-yl)-phenylcarbamoyloxymethyl]-1,1-dimethyl-piperidinium; or a pharmaceutically acceptable salt thereof.

4. A method according to claim 3 wherein the compound is selected from the group consisting of:

15 [2-(4-Bromo-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester; [2-(4-Chloro-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester; [2-(4-Methyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester; [2-[4-(1,1-Difluoro-methyl)-thiazol-2-yl]-phenyl]-carbamic acid piperidin-4-ylmethyl ester; and

20 [2-(4-Fluoromethyl-thiazol-2-yl)-phenyl]-carbamic acid piperidin-4-ylmethyl ester.

5. A method of antagonizing the M<sub>3</sub> muscarinic acetylcholine receptor by administering to a subject in need thereof a safe and effective amount of a compound according to claim 1.

6. A method of treating a disease or disorder selected from the group consisting of

25 chronic obstructive lung disease, chronic bronchitis, asthma, chronic respiratory obstruction, pulmonary fibrosis, pulmonary emphysema, and allergic rhinitis, irritable bowel syndrome, spastic colitis, gastroduodenal ulcers, gastrointestinal convulsions or hyperactivity, diverticulitis, pain accompanying spasms of gastrointestinal smooth musculature; urinary-tract disorders accompanying micturition disorders, neurogenic

30 pollakisuria, neurogenic bladder, nocturnal enuresis, psychosomatic bladder, incontinence associated with bladder spasms or chronic cystitis, urinary urgency or pollakiuria, and motion sickness.

7. A pharmaceutical formulation comprising an active according to claim 1 and a suitable carrier.
8. A container containing a pharmaceutical formulation according to claim 1 fitted with a metering valve.
- 5 9. A device adapted for intranasal delivery of a pharmaceutical formulation comprising a container according to claim 8.